BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA
DOCKET NO. 2018-3-E

In re: Annual Review of Base Rates for Fuel Costs of Duke Energy Carolinas, LLC	)	**POST HEARING BRIEF**

PURSUANT TO South Carolina Public Service Commission ("Commission") Rule 103-851, intervenors South Carolina Coastal Conservation League ("CCL") and Southern Alliance for Clean Energy ("SACE") (collectively, "Conservation Groups"), through counsel, file this brief on certain issues in the current fuel cost proceeding of Duke Energy Carolinas, LLC ("DEC" or "Company"). Conservation Groups respectfully request that the Commission require the Company to properly value the benefits that net metered resources like rooftop solar provide in offsetting certain environmental and transmission system costs.

I. LEGAL BACKGROUND

The issues addressed in this brief arise in the context of the Company's annual fuel cost recovery proceeding, governed by S.C. Code Ann. § 58-27-865. Beginning in 2015, the Company began providing annual updates to its valuation of net energy metered distributed energy resources (or "NEM DERs") in its annual fuel cost proceedings. This annual NEM DER valuation update is filed in compliance with Commission Order 2015-194 ("Order"), which approved a NEM settlement agreement ("Settlement Agreement") and set out a methodology for calculating the costs and

benefits of NEM DERs to inform the calculation of DER program costs. This methodology included the components or categories of costs and benefits to be considered and descriptions of those components. Commission Order 2015-194, at pp. 8-10. Some components were included as placeholders "where there [was] currently a lack of capability to accurately quantify a particular category and/or a lack of cost or benefit to the Utility system." Order 2015-194 at p. 20. The Settlement Agreement approved by the Order also included a provision that placeholder categories would be "updated and included in the calculation of costs and benefits of net metering if and when capabilities to reasonably quantify those values and quantifiable costs or benefits to the Utility system in such categories become available." *Id.* at p. 20. The NEM DER Methodology approved in Order No. 2015-194 included the following eleven components:

+/- Avoided Energy

+/- Energy Losses/Line Losses

+/- Avoided Capacity

+/- Ancillary Services

+/- Transmission and Distribution Capacity

+/- Avoided Criteria Pollutants

+/- Avoided CO_2 Emissions Cost

+/- Fuel Hedge

+/- Utility Integration & Interconnection Costs

+/- Utility Administration Costs

+/- Environmental Costs

= Total Value of NEM Distributed Energy Resource

II. FACTUAL BACKGROUND

The Conservation Groups submitted expert witness testimony demonstrating that two of the NEM DER cost-benefit Methodology placeholder components are reasonably quantifiable at this time. Witness Devi Glick testified and calculated values for both the (1) avoided transmission and distribution capacity and (2) avoided environmental cost components. Those components have been included as placeholder values or zero values by the Company in each of its annual updates since 2015. Company Witness Snider testified that he did not believe those categories warranted non-zero values at this time. Witness Glick and Witness Snider were the two primary witnesses who testified on these issues.[1]

III. ARGUMENT

A. TRANSMISSION COSTS AVOIDED BY NET METERED DISTRIBUTED RESOURCES ARE REASONABLY QUANTIFIABLE AND SHOULD THUS BE INCLUDED IN THE COMPANY'S ANNUAL VALUATION UPDATES

The NEM DER Settlement Agreement approved by the Commission in Order 2015-194 allows placeholder components and zeros to be used until those cost-benefit components are "reasonably quantifiable." Commission Order 2015-194, at p. 20. The transmission and distribution component of the NEM DER Methodology is now reasonably quantifiable and the Company should thus be required to include a value for this component within its annual NEM DER valuation updates beginning in this proceeding.

[1] Conservation Groups have submitted a proposed order in addition to this post-hearing brief. The proposed order provides more detailed descriptions of the testimony presented, and Conservation Groups incorporate those descriptions by reference for purposes of this brief.

Witness Devi Glick provided extensive testimony on behalf of the Conservation Groups demonstrating that avoided transmission and distribution costs are reasonably quantifiable at this time. Glick Direct Testimony, at pp. 6-14. She provided multiple examples of other jurisdictions and contexts in which avoided has been calculated and where distributed energy resources have been found to result in cost savings by avoiding the need to spend money on transmission and distribution system capacity upgrades. *Id.* at pp. 7-8, 10-11. This list of examples included: CAISO and PJM planning processes, Maine's Value of Solar Study, MidAmerican Energy Company's Demand Side Management Filings, PacifiCorp IRPs, and 12 of 15 Value of Solar studies analyzed by part of the Rocky Mountain Institution's 2013 "Review of Solar PV Benefits & Costs Studies, 2nd Edition." *Id.* Witness Glick further described approaches that the Company could take to filling in this component for its annual NEM DER update, including a Current Values approach or a more detailed System Planning Study. *Id.* at pp. 12-13. She took it a step further and actually provided a quantified value for the costs that NEM DERs can avoid on the transmission system, demonstrating that this value is reasonably quantifiable at this time. *Id.* at pp. 13-14, Exh. 3. Even if the Company were to disapprove of the value calculated through the Current Values approach, it is impossible to deny that other jurisdictions and utilities can and have calculated a value for this cost-benefit component of the NEM DER Methodology.

Witness Snider's response to the extensive information provided by Witness Glick is essentially to say that because solar is an intermittent resource, the Company cannot rely on it to avoid distribution and transmission system expenditures. Snider Rebuttal Testimony, at pp. 2-4. This argument is belied by the numerous examples from

around the country where this value is indeed being calculated and it is a positive, non-zero value. Glick Surrebuttal Testimony, at p. 7. It also ignores the distinction between how NEM DERs like rooftop solar impact load differently for the distribution vs. transmission system. *Id.* at pp. 2-4, 6-7. As Witness Glick made clear in her rebuttal, distributed resources like small-scale rooftop solar will almost never backfeed onto the transmission system. *Id.* at pp. 3-4. While the impact on the distribution system is more nuanced, the reduction in load from NEM DERs across the Company's territory will have the overall effect of reducing the load on the transmission system and will thus result in cost savings that should be accounted for in the avoided transmission and distribution component of the annual NEM DER updates. *Id.* Even if the NEM DERs like rooftop solar are intermittent, or not always producing electricity, their overall impact is to reduce load on the transmission system. *Id.* at p. 6. And although solar resources in particular contribute less to winter peaks on the system than summer peaks, that contribution is not zero, a fact acknowledged in the Company's annual Integrated Resource Plan.[2] *Id.* at p. 8. Indeed, Witness Glick accounted for this by recommending to the Commission the more conservative avoided transmission cost value that accounts for the Company's position that it is increasingly a dual or winter-peaking system. *Id.* at pp. 7-8.

B. COAL ASH HANDLING AND DISPOSAL COSTS AVOIDED BY NET METERED DISTRIBUTED RESOURCES ARE REASONABLY QUANTIFIABLE AND SHOULD THUS BE INCLUDED IN THE COMPANY'S ANNUAL VALUATION UPDATES

Similar to avoided transmission and distribution costs, the avoided environmental cost component is "reasonably quantifiable" at this time and should be incorporated into

[2] The Company's 2017 Integrated Resource Plan assigns solar a generating capacity credit of 46% of nameplate in summer and 5% of nameplate in the winter. *See* Glick Surrebuttal Testimony, at p. 8.

the annual NEM DER Methodology update consistent with the Settlement Agreement approved in Commission Order 2015-194.

Conservation Groups' Witness Glick testified that there are several costs associated with coal ash handling and disposal that are avoided when NEM DERs like rooftop solar are added to the Company's system. Glick Direct Testimony, at pp. 15-16. These costs include: (1) variable operational costs associated with coal ash disposal, (2) capital costs associated with building new impoundments or landfills, and (3) costs associated with the risk that an impoundment will leak and require clean up. *Id.* Company Witness Snider testified that the Company already includes variable coal ash handling or operational costs within the avoided energy component of the NEM DER Methodology. Snider Rebuttal Testimony, at p. 10. To the extent that is the case, it would provide greater transparency to separately state this value going forward. Glick Direct Testimony, at p. 17; Glick Surrebuttal Testimony, at pp. 9-10.

However, the other coal ash costs are not presently accounted for in the Company's annual NEM DER updates. Snider Direct Testimony, at p. 4; Snider Rebuttal Testimony, at pp. 10-11. Witness Glick thus analyzed Company data provided in discovery to evaluate whether and how much NEM DERs may be able to avoid coal ash landfill and disposal costs. Glick Direct Testimony, at pp. 16-17, Exh. DG-4 (public and confidential versions). She evaluated the capital cost of coal ash landfills, electricity generation at each associated coal unit in the time since the landfill was constructed, the amount of coal ash that has been deposited in the landfill over this same time period, the date when the landfill is expected to be full, and the number of hours during a year when coal is on the margin during the daytime (when the sun is shining). *Id.* By analyzing

these data points and incorporating them into her calculations, Witness Glick was able to quantify the value that NEM DERs like rooftop solar can provide in avoiding the need to dispose of the coal ash resulting from burning coal. Glick Direct Testimony, at p. 16.

Witness Snider argued in rebuttal that the value calculated by Witness Glick is small and effectively rounds to zero. Snider Rebuttal Testimony, at pp. 10-11. While the value is small, it is not zero. Glick Surrebuttal, at p. 10. It is in fact on the same scale as the avoided criteria pollutants value which has been separately reported in the NEM DER Methodology update by the Company.[3] *Id.* Moreover, the Settlement Agreement as approved by the Commission in Order 2015-194 did not discount "small" values or disallow their inclusion in the NEM DER updates. *Id.*

Finally, Witness Snider underestimates the value that NEM DERs provide by urging that the benefit of this avoided environmental cost value would not begin to accrue until 2023 when the next coal ash landfill expansion is planned. Snider Rebuttal, at p. 11. NEM DERs like rooftop solar added to the Company's system today can in the aggregate help to avoid additional coal generation both now and in the future and in turn avoid the need for disposal capacity for coal ash in the future. Glick Surrebuttal, at p. 10. NEM DERs added today should be credited with that value they are providing in avoiding or delaying the need for additional coal ash landfill capacity. *Id.* These types of future benefits are reflected in other components of the NEM DER Methodology approved by Order 2015-194 and contemplated in the enabling legislation for the NEM and DER

[3] Witness Glick calculated the value of avoided environmental costs associated with coal ash disposal capacity at $0.00002 per kWh. The Company's avoided criteria pollutants' value for NEM DERs is $0.000034 per kWh for small solar photovoltaics.

programs,[4] and they should be included in the avoided environmental cost component that is reasonably quantifiable at this time.

IV. REQUESTED RELIEF

For the foregoing reasons, the Conservation Groups respectfully request that the Commission determine that the NEM DER Methodology components of avoided transmission costs and avoided environmental costs are reasonably quantifiable at this time. The Conservation Groups further request that the values for these components, as quantified and recommended by Witness Devi Glick, be incorporated by the Company into its 2018 annual NEM DER Methodology update. Finally, Conservation Groups request that the Commission direct the Company to separately report coal ash handling costs from the avoided energy component in future NEM DER updates for greater transparency.

Respectfully submitted this 21st day of September, 2018.

s/ Lauren J. Bowen
Lauren J. Bowen
Admitted Pro Hac Vice
Southern Environmental Law Center
601 W. Rosemary St. Ste. 220
Chapel Hill, NC 27516
Telephone: (919) 967-1450
Fax: (919) 929-9421

Attorney for South Carolina Coastal Conservation League and Southern Alliance for Clean Energy

[4] According to Act 236, "In the event that the commission determines that future benefits from net energy metering are properly reflected in net metering rates because they provide quantifiable benefits to the utility system, its customers, or both, and to the degree such benefits are not then being recovered by the electrical utility in its base rates, then such future benefits shall be deemed an avoided cost and shall be recoverable pursuant to Section 58-27-865 by the electrical utility as an incremental cost of the distributed energy resource program." S.C. Code Ann. § 58-40-20 (F)(6).